Science Matters:

Integrating MNR Forest Research and Policy

Synopsis of Presentations and Discussions

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Prepared by:

Lisa Buse
Ontario Forest Research Institute
Ontario Ministry of Natural Resources
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Executive Summary

The objectives for this one-day session were to (1) profile MNR's forest business drivers and policy issues, (2) profile ongoing CNFER and OFRI research projects, (3) encourage participants to get to know more of their colleagues, and (4) stimulate thinking and dialogue about how forest policy and research staff can more effectively integrate their efforts at all levels of the organization.

Eighty people attended the session, and most stayed to participate in the facilitated discussions, indicating significant interest; 28 of the 30 evaluations received were very positive, with participants citing that they appreciated the opportunity to get to know their colleagues and learn about current business drivers, policy issues, and the diversity of MNR's research. Most indicated that they would like to see such opportunities offered on a regular basis.

Following a series of 2 policy and 6 science presentations (overviews provided in main text), participants were charged with developing a model for improving integration of MNR research and policy. Opportunities for input were provided to participants through questions sent out in advance and posted on walls of meeting room (notes provided in Appendix I); facilitated discussions during the session (notes provided in Appendix II); and evaluations (summary provided in Appendix III).

What was made very clear in both the research and policy presentations, and to some extent in the discussions, is that science is important both as a driver and in supporting MNR's policy development. MNR also clearly values and is committed to supporting its internal science capacity because of the value of longer-term research linked to corporate priorities and the opportunities for synergy within the organization.

However, this integration requires ongoing effort by all levels of the organization, and there is room for improvement. For example, all staff need to make a conscious and consistent effort to work together as effectively as possible; to remain aware of current corporate issues and priorities; to be sensitive to the differences in various parts of the organization in terms of time scales and pressures; and to ensure that research and science initiatives are focused on MNR priorities, that results are delivered in an understandable and accessible form, and that their relevancy is periodically reviewed.

The main messages heard throughout the day and from the evaluations can be summarized as follows:

- The session was successful/worthwhile and should be repeated annually in a form that includes both research and policy presentations (preferably integrated ones and possibly related to a theme or issue) as well as focused discussions. The audience should be expanded to include Science and Information Branch and Aquatic and Wildlife Research and Development sections.

- Suggestions for integration were targeted at all levels of the organization. The most common were:

- Establish a functional research/policy forum with a joint priority setting/work planning process to ensure that resources are allocated to mutual priorities.
- When an issue requiring action is identified, strike a team that has a designated leader (who has authority/accountability) and include representatives from policy, research, and communications, to identify needs, develop an action plan, and outline roles and responsibilities and associated timeframes, including transfer and implementation.
- Include science representation on policy teams and policy representation on science teams and provide opportunities to attend each other's leadership, section, coordinator, and project meetings, etc., to keep the communication flowing as part of day-to-day activities.
- Set up job exchanges and/or locate research staff at Bondar and policy staff in research offices.

- Suggestions for followup action focused mainly on getting the information from the session out to participants, identifying priorities for action, setting a few clear objectives for action with assigned timeframes and accountability, and reporting back to participants on achievements, for example at the next session.

Recommended actions

- Several short-term communication-related action items that were recommended can be implemented immediately, including:

  - Raise standards for internal communication – staff at all levels of the organization need to make more effort to transfer information via various formats and to stay aware of advances related to their day-to-day responsibilities.
  - Share staff news and project updates across divisions (e.g., by putting information in each other's newsletters).
  - Move seminar series and meetings (e.g., joint branch leadership team (JBLT), section, branch) to different locations and build in time for presentations and other networking opportunities.
  - Invite science rep to policy meetings (manager and section level) and policy rep to science meetings (coordinator and project level) so they can act as liaisons.

- Plan a similar session in November 2004 that is focused on emerging issues in forest research and policy (perhaps linked to guide revision timelines) and includes a broader audience (Science and Information Branch and Aquatic and Wildlife Research and Development) with smaller (perhaps theme based) breakout groups and more focused discussion topics (perhaps issue based).
- Set up cross-divisional job exchanges/sharing/training and development assignments to broaden staff knowledge of the larger organization and associated needs/issues/culture.

Next steps

- Present summary of proposed action items to Forest Division and Applied Research and Development Branch management teams in December/January 2003.
- Circulate summary to all participants and post on Intranet in December/January 2003.
- Show leadership in implementing action items – inform staff what will be done and by when.
- Implement the recommendations as appropriate.
- Organize another similar session in November 2004, part of which will be reviewing progress and establishing goals for future years.

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Contents

Executive Summary 2

Acknowledgements 5

Synopsis of speaker presentations 7

- Current challenges and opportunities for MNR research and policy: Environmental scan and business drivers 7
- Forest landscape policy and science: A symbiosis 8
- Testing the effectiveness of Ontario's natural disturbance guidelines for wildlife 9
- Linking forest policy issues and research needs 10
- Physical site protection and stream modelling research 11
- Lake shoreline and riparian zone management: Making the connection between ecology and practice 12
- Update on moose guideline effectiveness monitoring program and proposed caribou research to support EA review implementation 14
- Effects of forest management practices on floristic diversity: What you should know 15

Facilitated Discussion Session: Improving Integration of MNR's Research and Policy Initiatives 16

Wrap Up 16

Recommendations 17

Preliminary Action Plan 17

Appendix 1. Responses to questions sent out in advance and posted on walls of meeting room 18

Appendix II. Discussion group notes (raw) 20

Appendix III. Summary of Science Matters session evaluations 27

Synopsis of speaker presentations

(Note: This is my interpretation of what was said by each of the speakers. Apologies if I missed or misconstrued any of the messages.)

Current challenges and opportunities for MNR research and policy: Environmental scan and business drivers

Bill Thornton, Director, formerly of Forest Management Branch, now with Industry Relations Branch

Bill provided a brief overview of the most important business drivers for science and policy in MNR.

He began by emphasizing that the MNR is a science organization, one of the few remaining parts of the Ontario Public Service that has retained a significant science capacity, with most of the other ministries now buying those services from the outside as needed. Science and Information Resources Division is allocated approximately 23% of the annual forest program budget and those dollars are used to support our research, science, and information management needs (and to some extent those of other Canadian provinces), with Ontario often seen to be on the leading edge of forest management issues and policy development.

The interface between science and policy is already strong, with science results and information being used daily in policy development as well as having a marked influence on forest management decisions. Stakeholders and the public expect the interface between science and policy to be integrated and productive (e.g., spring bear hunt, NDPE guide, fisheries guide, invasive species) and expect appropriate associated action.

Bill outlined the current business drivers for the MNR as follows:

- The public expects the government to make informed (objective, reasoned) decisions based on the best available information (especially post-Walkerton). MNR is expected to acquire and maintain adequate, accessible information on the state of the resource. A good example is the EA decision; the public expects related actions to be monitored, reported on, and reviewed based on the best available science.
- Litigation will play an increasing role in how MNR does business, and science has been and will continue to be involved. Examples of litigation-related drivers are Aboriginal issues, moose habitat debates, and softwood lumber discussions.
- Pseudo-scientific arguments from stakeholders, based on their own monitoring and auditing approaches, are increasing. These arguments catch the eye of the media and have and will continue to influence and drive MNR towards better science and decisionmaking by challenging existing systems and approaches.
- Health, both personal and environmental, increasingly drives much of what we do; for example, emerald ash borer, zebra mussels, nuisance bears, Asian longhorn beetle, are all public concerns. We cannot be seen to be ignoring any of these threats and in most cases will

need to act quickly to mitigate impacts.

Overall, science plays an important role in driving policy. Over the past decades, science has resulted in changes in management approaches, and it will continue to do just that.

Forest landscape policy and science: A symbiosis

Joe Churcher, Forest Management Branch, Ajith Perera, Ontario Forest Research Institute, and Anne Harris, Forest Management Branch

This group illustrated the link between science and policy in the development of the Natural Disturbance Pattern Emulation (NDPE) guide, the old growth policy, with views towards developing the new landscape guide. The presentation highlighted the joint roles of science and policy in driving development and implementation of landscape policies in Ontario. Joe emphasized the importance of timing and the need for concurrent development of related science and policy supported by ongoing communication in order for the efforts to be most successful.

Ontario is not just at the "leading edge" but also at the "bleeding edge" of forest landscape policy development, which means that although MNR is seen to be out in front, we also suffer the associated growing pains and have to learn by doing. Sometimes policy is driven by public pressure, sometimes by management needs, and other times by legislation, or some combination of all 3.

New ideas in policy and science often quickly become part of people's everyday lives and may be adopted without recognizing or acknowledging their origin or all the effort behind them point – it quickly seems like it always been there. For example, although the NDPE guide won't be implemented until the 2004 plans and the Old Growth Policy until 2005, it seems like they've been in place for quite a while (and it's true that aspects have been implemented for some time informally). Sometimes the results of years of research are used without even being aware of it.

Ajith outlined some important principles in advancing the understanding of large-scale disturbances (necessary for developing natural disturbance-based management policies). Natural disturbance provide a null model or benchmark for management strategies. However, disturbance patterns vary in space and time, with historical snapshots representing just one of many possible scenarios. That's where spatial simulation modeling comes in handy. It provides a means of synthesizing what we know in an objective manner and can be used to predict what might or could happen rather than what did happen. They consider the spatial, temporal, and random variations possible in nature and provide information about the probability or likelihood of an event or pattern. Such a model was used to develop Ontario's old growth policy.

Anne outlined the policy development process used to develop the old growth policy, definitions and conservation strategy over the past 15 years. This policy was driven by public pressure and legislation. Science was involved in identifying the occurrence and abundance of old growth across

the province, developing old growth definitions for various forest types, and the development and improvement of old growth targets for planning teams.

From this presentation it became clear that some policies can take quite a while to evolve when science must be the foundation for the directions given, but when science and policy coevolve, dramatic shifts in how people think and what they do are possible. As Anne concluded: "We are not just protecting old growth where it is now, we will be creating it where it could have been or could be. We are not attempting to emulate a single natural disturbance pattern but moving towards a more natural range of disturbance patterns."

Testing the effectiveness of Ontario's natural disturbance guidelines for wildlife

Rob Rempel, Centre for Northern Forest Ecosystem Research

One of the most important and difficult tasks of getting something new adopted is changing people's mindsets. First and foremost, such change requires common language and definitions for good communication. Rob proposed the use of *prescriptive* and *evaluative* indicators as a basis for such communication among policy, planning, and research.

Under the Criteria and Indicators Framework, demonstrating the conservation of biodiversity is a priority. Ontario adopted the natural disturbance emulation approach as a low risk model, because it provides the landscape level patterns to which our plant and animal species have adapted. It also avoids the specific species approach – meaning we don't have to identify individual values being managed – and forest harvest areas are aggregated, resulting in fewer roads and similar amounts of wood at less cost.

However, in implementing this approach resource managers quickly realized that they can't replicate natural disturbance with management practices, and therefore have to use natural patterns as a tool or guide, which requires identifying goals, objectives, and desired values in order to apply the tool.

Rob suggested using prescriptive (planning) vs. evaluative (response) indicators to link policy, planning, research, and monitoring, for example, to help demonstrate the conservation of biodiversity and set goals for using natural disturbance in management. For example, "prescriptive indicators would be used to define and direct (prescribe) the forest pattern that we want to create to conserve biodiversity (conservation strategy). Evaluative indicators test whether the conservation strategy is indeed working (effective). They are more direct indicators of biodiversity in that they measure wildlife response to management actions." Evaluative indicators are a modified version of the featured species approach, which uses condition indicators, such as the pileated woodpecker; landscape indicators, such as moose and caribou; and umbrella species, such as martin. The indicators would serve as "the common currency that allows: 1) *science and technology units* to assist *planning units* in developing science-based goals, objectives, and indicators, 2) *research units* to develop questions and research programs that are meaningful to policy developers and planners, 3) *policy units* to state values and goals in terms of measurable objectives, and 4) *assessment units* to relate monitoring results to the effectiveness of the planning approach."

Rob described the overall process and provided an example of a specific research and monitoring application.

Linking forest policy issues and research needs

Brian Hillier, Forest Management Branch

Brian began by pointing out that effective action requires 3 things – capacity, ability, and willingness – and stressed that political will is often missing when integrating science with policy.

He summarized the key forest program drivers as being the Crown Forest Sustainability Act, the Forest Class Environmental Assessment, the land use planning exercise formerly known as Ontario's Living Legacy and the associated Ontario Forest Accord, changing business drivers, national and international obligations, and provincial government agendas (which change).

MNR's policies and guides support the ecological, economic, and social pillars of sustainability. Policy developers build flexibility into MNR's forest management guides to ensure ecological sustainability and consistency and to ensure that they can be applied appropriately at the local level by the professionals with experience in that area. Brian differentiated between standards, which are legally binding, and guides, which provide guidance. He also pointed out that MNR's policies are adaptive, defensible, and science-based and try to balance practicality with cost-effectiveness.

Brian stressed that science is a big commitment for MNR with the science envelope costing close to 24% of the overall forest program budget (of this OFRI is about 6.4% and CNFER is about 3.3%).

Some examples requiring research support include:

- CFSA requirements – indicators of sustainability, descriptions of natural landscape patterns, composition and structure, simulation modelling of natural landscape processes and forest management activities
- Forest Management Class EA – interpretation of intent still required but are starting to build action plans and teams around the new conditions; research areas include forest inventory, wildlife population monitoring, monitoring guideline effectiveness, forest management guide review and renewal, emulation of natural disturbances, growth and yield, full-tree harvesting, tending, analytical methods.
- Ontario's forest resource inventory – clear need for more accurate, reliable forest inventory that is both cost effective and efficient
- Ontario Forest Accord – develop and test intensive forest management practices and assess effects on forest growth and yield and the environment
- Forest management guide review – the 34+ guides are being restructured and amalgamated into 6 books: landscape, stand, site, silviculture, tourism, cultural heritage; also developing and implementing associated effectiveness monitoring programs; current focus is on the

landscape guide and associated questions about bounds of natural variation
- Enhanced forest productivity – improved quality of growth and yield data, improved silvicultural practices, tree improvement, achievement of biodiversity objectives with minimal impact on other values

Some issues that are quickly becoming more important are climate change, non-timber forest products, e.g., Canada yew and energy cogeneration.

Some integration approaches that Brian cited as currently working are scientist presentations to the Provincial Forest Technical Committee and the inclusion of both science and field staff on policy committees.

OMNR policy is structured as a hierarchy of acts, decisions, policies, and accords that provide direction to forest management and forest research. Within this set of "rules" forest research can outline the decisionmaking space to *guide creativity* in developing guides and management practices. The big challenge is for research to partner with government, and for research to apply adaptive management.

We do need to distinguish among research, science, and monitoring and improve awareness of their differences and their roles within the organization.
And we need to ensure the relevancy of science to program, continue to incorporate the best science in policy, and improve transfer to practioners.

Physical site protection and stream modelling research

Rob Mackereth, Centre for Northern Forest Ecosystem Research

Rob provided a dynamic overview of the work being done on small streams in the boreal forest, using the Mackenzie River watershed as an example. He and his colleagues are studying the effects of management practices on fish species richness, biomass and habitat; invertebrates; channel structure; and riparian characteristics in relation to catchment size. The project is intended to improve understanding of the natural riparian structure and its association with critical fish habitat, with the ultimate goal of using GIS-based landscape analysis to predict sensitive riparian and stream habitat and manage forestry operations to protect these. As part of this effort, researchers are determining the extent of catchment deforestation required to affect stream habitat (beyond the range of natural variability). The research will also reveal how spatial scale is related to harvest impact (e.g., how harvesting 50% of a 1 km^2 catchment differs from harvesting 50% of a 10 or 100 km^2 catchment). The results could lead to changes in timber harvest guidelines, with steps taken to minimize impacts on aquatic systems, at the appropriate spatial scale, throughout the timber management planning process.

Results of their electrofishing work indicate that fish species richness increases with the size of the catchment area assessed, biomass data are more consistent over larger areas but not any higher,

and brook trout occur more often in smaller streams.

Rob identified that existing guidelines are pretty good at protecting streams that are mapped, but there are many unmapped streams that are not considered in plans. These are dealt with inconsistently on the ground and sometimes damaged, either through disturbance or changes in flow patterns. Their research is trying to identify how best to handle these small streams in management/harvest scenarios. Rob pointed out that we don't really have good information on effects of hydrology (changes in flow patterns) on fish. For example, water flow often increases following harvesting but what effects does that have over time?

To increase their understanding of the location and dynamics of these unmapped streams, they used a hydrologic model (based on topography) to identify locations in the watershed and then ground-truthed the model results. They found that in the Mackenzie River study area, about 30% of stream channels were unmapped. If mapped, these would account for a substantial increase in reserve area required under the current guidelines.

Rob concluded by emphasizing that an ecological understanding is required to protect *values*, that small streams are ecologically important (some more than others) and vulnerable to disturbance, and that hydrologic models have the potential to locate unmapped streams and reduce risk of site disturbance in wet areas.

This project (and the presentation itself) is a good example of effectively combining research methods and technology to maximum advantage. A number of partners are collaborating across a number of sites in northern Ontario to provide maximum information related to similar concerns.

Lake shoreline and riparian zone management: Making the connection between ecology and practice

Bill Cole, Ontario Forest Research Institute

Bill provided an overview of some of the riparian zone studies that he's been involved in over the years. One of his main points was that in doing research we need to start by asking the right questions.

He began by outlining some of the policies that affect riparian zone management. For example, the Canadian Fisheries Act states that there can be no net loss of productive capacity of fish habitat due to management or development activities. Since productive capacity is very difficult to measure and monitor, the act is enforced mainly through habitat management.

Forest harvesting in central Ontario riparian zones was common in the 19th and early 20th centuries. Since then, riparian zones have usually been protected as aquatic buffer zones. Recent revisions to Ontario's *Timber Management Guidelines for the Protection of Fish Habitat*, which are not yet released, will probably allow greater latitude in forest management planning for partial harvesting of trees in riparian zones. It is assumed that partial harvesting of some riparian forests will not negatively

affect adjacent aquatic habitat productive capacity. It is also assumed that well-planned selective harvesting will adequately emulate natural disturbance patterns and rates and provide adequate compliance with Ontario's relatively new NDPE guide. Neither of these important assumptions has been experimentally tested in central Ontario.

One important habitat feature that nearly all of central Ontario's undeveloped lakes have in common is an abundance of coarse wood in the nearshore zone of the lake. In a progressive series of studies over the last 10 years, a team of researchers from the MNR and the federal Department of Fisheries and Oceans (DFO) have been studying central Ontario riparian forest and nearshore zones, especially coarse wood and its value as fish habitat.

We discovered that eastern white pine can sometimes live to more than 500 years, nearly 100 years longer than the age cited in most silvics references. We also found that white pine coarse wood is extremely resistant to water penetration. When combined with its large diameter and long logs, the result is coarse wood that remains intact, buoyant, and even relatively mobile in lakes for as much as 7 to 8 centuries after falling in. When they float about, pine logs often drift to the downwind lake shoreline, often to slightly concave shoreline areas, and relatively parallel to shore. These logs tend to remain buoyant and may support quite complex organic soil deposits and rooted plant communities.

In contrast, eastern hemlock has a relatively high water content soon after falling into a lake. Although hemlock is also quite resistant to decay, once its fine branches deteriorate, these logs tend to sink to the bottom and remain generally perpendicular to shore for up to 500 years. Other conifer species such as red pine, cedar, and spruce can also have long residence times. To date the oldest sample we have found is a red pine with an estimated pith date of A.D. 850 and an outside ring date of about A.D. 1200. Hardwoods common in the riparian zone, for example yellow birch, paper birch, and red maple, have shorter average lifespans, smaller average diameters and heights, and shorter average residence times than most conifers.

More recently our group has been studying the ecological processes and interactions between riparian and nearshore coarse wood and whole-lake fish abundance and productivity. In 2003 we conducted a 5-year remeasurement of riparian zone tree mortality and wood input into lakes. To our knowledge, this study will provide the first empirical estimates of coarse wood input into lakes. These estimates will provide baseline rates and wood quantities for applying the natural disturbance emulation guidelines, and will help to set baseline and threshold wood level estimates for aquatic habitat assessments.

Management activities in riparian zones can have a long-term and cumulative effect on the near shore zone. For example, we have evidence that no large white pine logs have fallen into Algonquin Park lakes since about 1895, which corresponds with the creation of the park in 1893 and the end of white pine logging along shorelines. Until that time, all merchantable white pines within the watershed, including the riparian zone, were cut. Only small diameter trees, which have a low probability of dying and falling into the water as coarse wood, were left. Current riparian zone pines are generally less than 150 years old and may live for another 100 or more years before resuming a pattern of natural mortality and near shore wood input. As the new *Timber Management Guidelines for the Protection of Fish Habitat* are implemented, careful monitoring and adaptive management are necessary to ensure that selective riparian zone tree harvesting does not remove a disproportionate share of the largest diameter conifers. Doing so could exacerbate the already

interrupted cycle of pine and spruce coarse wood input into many lakes that has occurred over the past century.

Although habitat management is clearly important, strong evidence is emerging from our studies and others that our angling regulations may need to be addressed if maintaining a productive inland lake fishery is the goal. Before a review of or a major shift in angling policies, solid experimental results from these habitat-productivity studies are needed to determine whether habitat is the limiting resource in undeveloped lakes.

Update on moose guideline effectiveness monitoring program *and* proposed caribou research to support EA review implementation

Art Rodgers, Centre for Northern Forest Ecosystem Research

Moose

Art started out by stating that policy begets policy begets policy, which is a good thing because it shows that we're constantly improving the policies and guidelines on which we base our management practices. For example, the 1980 moose management policy evolved to the moose habitat guidelines and then, as a result of the Timber Class EA, led to evaluation and effectiveness monitoring of the impacts of implementing the guidelines. For policy to advance further, the dialogue needs to expand to increase the linkages between forest policy and fish and wildlife policy – the interactions are clear but dialogue will make the process work more effectively.

Art's research is looking at the effects of MNR's guidelines on moose populations, habitat use, condition and productivity, calving sites, and aquatic areas. He provided an overview of some of the current results and countered a series of what he called "urban myths" about moose. His results show that:

- Landscape characteristics are important to moose populations, e.g., moose surveys in the 1990s showed that moose density was higher in areas with disturbance but less access.
- Nutritional condition of cow moose did not differ between mosse inhabiting a landscape harvested according to MNR's guidelines and a progressive, contiguous cut landscape that is similar to a natural disturbance pattern.
- Fecundity of cow moose (i.e., in utero calves/100 cows) did not differ between a landscape harvested according to MNR's guidelines and a progressive, contiguous cut landscape that is similar to a natural disturbance pattern.
- Annual productivity of moose (i.e., calves/100 cows) differed between a landscape harvested according to MNR's guidelines and a progressive, contiguous cut landscape that is similar to a natural disturbance pattern, likely due to differences in predation pressure.
- Calving sites are not necessarily on islands, peninsulas or even near water and tend to be highly variable, showing a need to balance seclusion, predator avoidance, and forage.
- Moose use of aquatic feeding areas increases with the size of the site and proportions of preferred aquatic plants available, and decreases with increasing water depth and distance to cover.
- Home range sizes are variable but there is a need to examine core areas within to determine stand level characteristics needed to meet moose requirements.

What became clear during the course of this research is that for results to be valid, the effects of other external influences need to be considered and factored in: Wildlife populations are affected not only by habitat availability and quality but also pressure from hunters and other predators.

An interesting piece of trivia: MNR staff developed the world's first GPS collars for large animals specifically to evaluate the effectiveness of MNR's guidelines – they are currently used to monitor bear, moose, caribou and elk habitat use.

Caribou

Art outlined the ongoing work to develop a recovery strategy for caribou in northern Ontario and emphasized that since this strategy will have significant impact on forest industry, more policy involvement is required.

He also outlined a proposal to examine the effects of natural and managed landscape structure on trophic interactions in boreal ecosystems; it requires funding for 3 to 5 years to GPS collar and monitor both the ungulates (caribou, moose) and their predators (wolves, bears).

Effects of forest management practices on floristic diversity: What you should know

Wayne Bell, Ontario Forest Research Institute

Wayne presented an overview of Ontario's floral diversity and some of the effects of forest management.

Ontario currently hosts 4706 plant species (about 517 woody, 2000 forbs, 660 graminoids, 142 pteridophytes, 684 bryophytes, and 703 lichens). With less than 1000 species per 10,000 km^2, it is not one of the top 6 species mecca of the world (compare with >5000 species/10,000 km^2 in the tropics for example). Species diversity can be altered by introducing alien species or losing native species.

Currently, Ontario has 1089 alien plant species, which is about 23% of all the plant species. Alien species can be introduced accidentally via freight or intentionally for horticulture, agriculture, and forestry. In forestry, alien species are spread mostly via roads. At the same time, indigenous species are lost, for example, by clearing forests for agricultural or urban development, draining wetlands, and developing pits and quarries. Two native species have been extirpated from Ontario (blue-eyed Mary and orange-fringed orchid). No species have been lost as a direct result of forestry, although forest practices have reduced the abundance of some species, for example, ginseng.

How do forest practices affect diversity? Using results from studies conducted across northern Ontario, Wayne showed that species composition can be reduced by aerial herbicide treatments, especially on low-productivity sites. Species richness can be reduced through site preparation and vegetation management treatments, and species diversity is markedly lower in plantations than natural stands with the same dominant species and soil type. He also indicated that resource managers don't always know the impacts of the effects over the long term. For example, if herbicide treatments reduce lichen abundance in the short term, are there longer-term impacts or not? He emphasized that by adjusting management practices slightly, resource managers may be able to mediate their effects to maintain the diversity and structure that occur in natural stands.

Facilitated Discussion Session: Improving Integration of MNR's Research and Policy Initiatives

This session was intended to provide an opportunity for dialogue among forest research and policy staff to help counteract the loss of existing relationships/awareness resulting from staff turnover, increase awareness of each other's ever changing roles and priorities, and show that research staff time and resources are focused on MNR corporate priorities.

Participants were provided with 3 opportunities to provide their views: respond to questions sent out in advance and posted on the walls in the meeting room (responses provided in raw form in Appendix I), participate in facilitated discussions at the event (raw notes provided in Appendix II), and complete evaluation forms handed out at the event (summary provided in Appendix III).

Wrap Up

Brian Hillier, Forest Management Branch, and David DeYoe, Ontario Forest Research Institute

Today we heard that there a few areas where we have some work to do to be more effective. These include:

- Improving communication, which includes improving our understanding of each other's needs/jobs; networking will increase awareness.
- Increasing the transfer of products and sharing of information, which includes developing more effective ways to transfer messages and information and improving the interaction between science and policy. We're doing better than we were, but can always improve. Researchers need to get better at connecting the dots for the end user, which includes providing context and explaining what to do with the information they generate.
- Improving priority setting and increasing synergy, which includes anticipating new issues, knowing what policy pressures lie ahead, and possibly establishing some form of "think tank" or proactive strategic policy discussions.
- Accepting that work load and capacity issues are a given. Thus, we need to get better at what we do and use existing knowledge, skills, and capacity to better advantage. Don't reinvent the wheel! This includes ensuring researchers have access to graduate students, i.e., preferably located near a functioning university.
- Understanding that both policy development and research are long-term efforts, especially to get them right, emphasize effective interim communication to ensure better products down the road and make sure that the best bets are implemented along the way (apply adaptive management).

Most important, make sure the good ideas generated during this session don't get shelved. Ensure that an action plan is developed and implemented, and the associated accomplishments reported on.

Recommendations

Short-term tangible recommendations include:

- Have policy presentations at OFRI and science presentations at Bondar.
- Incorporate exchange of news updates into existing staff communications, e.g., The Journal (OFRI), Coffee Stain (Bondar).
- Have Forest Division joint branch leadership team (JBLT) meetings at OFRI occasionally.
- Invite appropriate science people to policy section meetings and have rep on policy development teams and invite policy rep to research project planning meetings and have rep on evaluation teams.
- Raise standards for internal communication about issues (treat each other as clients).

Longer-term recommendations include:

- Clearly articulate roles and responsibilities for integration, including by whom and how.
- Encourage directors/managers to show leadership on commitment to integration.
- Establish a functional research/policy forum with joint priority setting/work-planning process.
- Use team approach with accountable leader to ensure issues dealt with in a planned, effective, integrated manner.
- Ensure that ongoing research projects are put under a 5-year review cycle to ensure they are on target, delivering, and still relevant before allocating additional resources.
- Set up job exchanges and/or locate research staff at Bondar and policy staff in research offices.

Preliminary Action Plan

This plan identifies activities that the organizing committee has control over and can commit to acting on in the short term. Proposed action items identified in the recommendations that require the commitment of managers and research/policy staff will be added based on what each group is willing/able to commit to. These will be reported on in future updates.

What action?	Who's responsible?	By when?
Distribute session synopsis	Lisa Buse	December 2003
Present recommendations to JBLT and ARDB	Organizing committee	December 2003/January 2004
Improve cross-divisional communications efforts	Organizing committee and managers	Ongoing
Report on accomplishments	Organizing committee	At next session (Nov 2004)
Plan November 2004 session	Organizing committee and JBLT identify expanded planning team	By February 2004

Appendix 1. Responses to questions sent out in advance and posted on walls of meeting room

What are the top MNR policy issues/priorities where forest research input is required?

Current issues/priorities?

- impact of climate change
- sustainable management of NTFPs
- forecast/prediction of future forest condition
- successional pathway development: post-natural disturbance, post-renewal (harvest), natural (without stand-replacing disturbance)
- integrity/accuracy of FRI and correlations for habitat
- natural disturbance template (fire size, fractal dimensional, distance between fires)
- historical (pre-industrial) forest condition
- fire cycles by ecoregion
- new forest inventory techniques/methods
- growth and yield models
- placing value on the forest ($) – (litigation oriented)
- lack of social and economic priorities
- standards for responses to silvicultural treatments (i.e., what is acceptable)
- airborne smoke movement modelling (public safety-health)
- amount of forest to retain that has other "wood" objectives
- quantifying non-timber values (streams, etc.) leading to development of predictive models which are tested and linked to population studies
- testing validity of SFMM models

Future issues/priorities?

- impact of climate change
- sustainable management of NTFPs
- invasive species (insects, diseases, plants – already over 1000 alien plant spp. in ON)
- finding the economic/ecological balance
- scaling emerging or current site/stand-level issues to landscape level (e.g., land-water or riparian issues)
- Species at Risk Act (SARA) has June 2004 deadline for habitat protection
- differences/similarities of wildlife use between fire-origin and harvested areas

What are the main challenges in getting forest research results incorporated into MNR policy?

- mutual awareness of emerging issues
- communication – require it to be both ways
- timing
- available time – balance of doing transfer vs doing science
- available time – of teams/staff to participate in effective process
- providing clear link between research and application
- providing/interpreting results in ways that can be easily applied to policy development
- provide tools that can be understood and implemented at the field level

- budget process – long-term funding commitments to long-term projects
- policy needs to target science funds for their priorities
- need performance contract targets to buy the time
- cultural barriers (corporate)
- prioritization
- science should be an explicit requirement embedded into the FMPM

What methods have worked/might work for effectively incorporating forest research results into policy?

- identify information, research and science needs when developing policy proposals
- involve research/science staff on policy project teams
- identify science's role in developing and supporting the implementation of policies that have incorporated their science
- interaction throughout the research and policy development processes; evolve together; researchers on policy teams and vice versa
- management support for above suggestions
- crisis "opportunity"

What suggestions do you have for increasing integration/synergy between MNR forest research and policy both at the section and individual staff levels?

Section level

- Regular sessions on research/policy issues
- Some level of joint short- and medium term workplanning to try to plan better for participation and shared resources
- Shared positions and/or secondments between policy and R&D
- More emphasis on business planning to address business needs – include testing and tool development, staff education, implementation planning

Staff level

- more presentations by research staff at Roberta Bondar and policy staff at OFRI/CNFER – include in PDP targets
- present policy priorities and drivers to science staff
- interdivisional newsletter
- sharing minutes of key policy meetings
- scientist membership on key policy committees
- increase participation in forums/conferences in other areas (AB, SK, etc., have similar ecosystems – share their research/policy efforts)
- annual summary of ongoing research projects and contact persons
- assign communications person to key initiatives
- exchange programs
- joint "coffee stain/Petri dish culture" publication
- direct science link (individual) in the regions/main office
- encourage staff attendance at workshops geared toward their area of expertise
- policy/regional folks should extend invitations to scientists to appropriate meetings/regional fora, etc.
- scientists should encourage policy folks to partner in research projects

How do you prefer to provide input to research?

- one on one discussions
- help to define the problem

How do you prefer to receive research results?

- newsletters
- executive summaries
- presentations (OFRI seminar series)
- listserv
- field-oriented workshops
- documented applications (software)
- explicitly referenced in guidelines

What else??

- don't know how to get my science needs to appropriate scientist
- science and policy development often don't march to the same timelines or cultures (expediency vs. accuracy)
- with regard to wealth of GIS/modelling/Landsat image analyses – guidance for re-inventory techniques
- model development needs to be coordinated for efficiency/effective use of $/resource time
- lack of appreciation for importance of peer-reviewed journal papers
- provide forecasts for results – when can we get them?
- use MNR air fleet for more airborne monitoring and research

Appendix II. Discussion group notes (raw)

At the outset of the discussions, participants were challenged to:

- identify their disappointments and successes in integrating policy and science
- develop a model for what they felt the successful integration of science and policy would look like

Group 1 – Facilitator: Thom McDonough

Disappointments?

- science strategy didn't pan out as expected – driven by politics rather than science or policy needs
- haven't built in testing for models
- not directed enough in these sessions – options first
- expert opinion used rather than rigorously attained information
- ProGrid – money, new projects in, etc.

- Amount of energy put into communication, house notes, etc,. as opposed to dealing with issue
- Upfront identification of uncertainties around policy – intended effects, etc.
- Input on "new hires" influence from policy
- Lack of progress on timber and non-timber values – better predictive models needed
- Don't have a clear understanding of how/when we develop policy
- Haven't acknowledged what we do know – articulate this
- Continuity of major programs wasn't possible – constraints

Successes?

- haven't been dogmatic with policy – adaptive to new info
- despite cutbacks managed to continue doing things to support policy
- survived a time of significant constraint – continuing development of expertise in major areas
- collaboration with other partners – new source of money – major stakeholders involved
- increased access to expertise
- taking advantage of technology – exploiting computer age
- our results used at national and international levels
- we have credibility at national and international levels
- a vision as a knowledge-based ministry (policy)
- legislation is supportive and enabling
- willing to be out front
- prepared to make hard decisions where science supports them
- successful in using knowledge to educate judiciary (litigation)
- keeping expert knowledge in place
- no pressure to "support" policy – the science dictates support or not

Proposed program elements?

- framework for prioritizing research
- dialogue between science/policy staff (personal)
- strategic thinking (what's coming)
- leadership in both policy and research development
- new partners (universities) in future undertakings
- catalogue of projects for future work
- putting short-term projects into the framework of a long-term strategy
- process to balance tactical vs strategic projects
- program leadership team
- integration of program needs <u>forests – wildlife</u>
  science
- policy staff from program areas need to be together for dialogue to occur
- policy development – delivery – implementation
- recognize importance of FRI
- responsibility and accountability on both sides – policy and science
- mechanism for ensuring the science is brought back and implemented (that the circle is closed)

- develop a portfolio for science staff
- feedback mechanisms for products
- corporate memory development – recognize what we've done and acknowledge it
- integrating socio-economic sciences into policy

Our program for the successful integration of science and policy would...

- continue to have in-house science program to support policy
- want to improve science/policy program – not just forestry
- improve dialogue opportunities (internal and external committees and fora)
- increase commitment to dialogue, opportunities that already exist
- initiate science/policy days (not just forestry based) that concentrate on specific program/policy links

Group 2 – Facilitator: Erik Wainio

Disappointments

- science knowledge is not being passed to staff, lack an understanding of the foundation of knowledge/science
- policy process is not being conveyed to science – e.g., forest management planning evolving – gap getting larger
- not good at "selling science" to public/industry/environmental groups and internally (too busy) – field staff must understand and review "what science tells us," policy at times seems at odds with science
- time lag between science and policy needs – need to look forward to future issues
- need to set coordinated priorities for science and policy
- look at broad picture – both science and policy need to be less introspective – need strategic planning to deal with IMPORTANT issues – not URGENT all the time
- capacity needs to be improved
- need to increase field experience among both policy and research staff
- need to be less reactive – science must convey issues that may affect us – ahead of policy
- one hand doesn't know what the other is doing – all sectors must communicate better
- need a policy research agenda
- science is much bigger than forest science – there's room for other sciences in policy
- MNR is very large – we need to get better at knowledge management
- "hot button" issues are avoided – process not there to address them – lack framework for big MNR-wide issues – how do you deal with issues in a large organization?
- expectations have increased in policy – research capacity may not be there
- need research on policy needs
- we may have to slow processes down, recognize limitations
- formalizing knowledge management and sharing may increase capacity
- teams sometimes create overhead, use more time and increase costs
- divisions set up artificial barriers – there is a science network and a policy network – individual networks are also important

Successes

- informal networks are strong – freedom to allow informal networks to exist – management plays a major role in this – acknowledges the importance
- better mix/integration between districts/Peterborough – campus on-site – research integrated with education (university students) – Peterborough viewed as successful; FRI and OFRI not viewed as successful yet

Suggestions

- business to business – what do you need? Identify and act upon
- science transfer and awareness at executive level – both sides
- use terminology that both science and policy can understand
- science and policy think tank – internal focused approach – need the right people and champion – could be informal "focus groups"
- social policy should not be ignored but also not be allowed to rule
- Ontario Advanced Forestry (could be ecology) Program is an example of a "synergy" between science and policy that existed before – one-on-one contacts and relationships still exist and work – no such opportunities exist at the moment therefore difficult to get the big picture – no process – no formal training – reinstate something similar
- integrate buildings – OFRI and Bondar
- move junior people between science and policy and field (1 year in each place)
- increase capacity on social science
- think tank needed
- do not underestimate the cumulative effects of smaller items
- Need to be clear about what research and science mean – their mandates – people do not know where to go for what
- Who's who needs to be updated or some other central source developed to quickly search a particular topic or expertise/committee/projects/etc.
- need "enthusiasm" in person – e-mails don't convey enthusiasm
- we have done well for big projects (e.g. Lands for Life) but not well for smaller ones
- we are overwhelmed by information – some we get too much of and some we get too little of
- intranet could be better utilized
- may need e-mail guidelines and protocols that are better enforced

Group 3 – Facilitator: Abby Obenchain

Disappointments?

- easy to identify problems but difficult to generation workable solutions and implement
- too many failures in the past, e.g., lack of awareness of each other's jobs; timing of science/policy deadlines; staff "swamped"; lack of resources; inconsistent, irregular funding
- policy responds to "public issues" on a shorter timeframe (shifting priorities) in some cases and in others manages longer term approach, e.g., old growth and G&Y
- lack of functional research/policy forum for discussions
- poor dissemination to field staff in particular to action knowledge transfer
- lack of requirement for science in FMPs (e.g., fire cycles in clay belt)

- "too far" from Bondar to OFRI
- science results are sometimes compromised by other factors influencing policy
- "turf wars" within MNR
- in some cases section and individual's roles are not clearly defined

Successes?

- using past and ancillary data, plots, etc., to answer new questions
- CNFER's clearly defined role in providing science support to policy
- moving from timber to forest mgmt
- MNR's commitment to science resulting in research specific to org. needs with longer-term view
- continuity of scientific expertise – knowledge of in-house staff, relevance, common goals, common language, evolution of processes
- science leading policy initiative (e.g., old growth definitions)
- Forest EA – high-level commitment, integration of policy and science

Our program for the successful integration of science and policy would include…

- job exchanges
- strengthened, more focussed mandate for OFRI
- more formalized adaptive management cycle – to evaluate our progress, make good use of our analytical skills (e.g., recurring mtgs, workshops, etc.) with built-in followup
- incorporate science/policy integration goals into PDPs
- ensure direct link between regions/Bondar/OFRI (tag individuals with responsibility)
- joint priority setting process to direct work
- more direct link between available internal resources and science/policy priorities (seed money)
- scientists help policymakers identify longer-term emerging issues
- awareness of and access to budget planning
- full transfer of knowledge
- improving knowledge of respective roles, expertise within MNR (e.g. newsletters, MNR research and science web site, forest research partnership web site, science gateway sites)
- more staff therefore more time to explore organization
- team or position specifically to liaise/extend/represent within MNR (similar to forest program finance person); position would help ensure accountability that is sometimes missing in team efforts
- incorporate a client-service ethic into MNR internal communications

Group 4 – Facilitator: Lisa Buse

Disappointments?

Communication:

- organizational structure creates barriers between divisions and sometimes even branches
- should produce annual update/summary of people/projects/results/current status for easy access to ongoing research

- location - any distance is a barrier – being in different locations decreases potential interactions
- JBLT presentations are good but need to be linked to policy/program needs – show application rather than just FYI
- some managers are better than others at communicating issues and priorities and trends to staff – need more consistency in messaging
- include research/science staff in policy/program section meetings or adopt a liaison person – helps to establish relationships and keep lines of communication

funding mechanisms:
- need to establish/overhaul mechanisms for allocating research funds to priorities – fix SIC (science integration committee)
- balance internal funds/expertise with external to ensure MNR's needs/priorities are met – have policy people involved in objective setting for research
- conduct 5-yr review of research projects to identify those that should be stopped/modified if finished/no longer relevant/not producing desired results and then can reallocate those resources elsewhere – plus forces summarizing status

coordination
- too many disparate science organizations (OFRI, CNFER, regions, etc.) creates extra admin costs and results in inefficiencies and confusion – could centralize to reduce admin and increase synergy but then run the risk of losing linkages to other parts of organization
- when new issue crops up should get together and coordinate who does what at the outset – include policy, research, transfer; be proactive to help rule out overlaps; frame the issue and break it down into assigned timelines and responsibilities
- scientists should be responding to needs rather than developing their own projects

sharing
- research has skills/knowledge/expertise/data that could benefit the rest of the organization – how to make sure it happens?
- joint social events help to improve interactions/open doors

Successes?

communication
- people know what research policy/process is and how it works
- seminar series
- inter- and intranet sites provide info if used
- newsletters help keep people up to date
- workshops/symposiums and info sessions (like today)
- participation in JBLT esp joint res/pol presentations
- policy folks do provide constructive helpful feedback on projects when asked (but onus is on research folks to ask – still lack formal development/integration process)
- have S and internal expertise – just need to use them more wisely – to best advantage
- there is incredible value in internal resources/expertise for long-term synthesis and knowledge of how pieces all fit vs. buying externally and getting one-offs and short-term fixes
- task teams work – people appointed and accountable for outcomes
- external clients are happy with services provided by research – why not internal?

Our program for the successful integration of science and policy would include…

Ad hoc activities

- continue ad hoc activities such as JBLT pres, annual info sessions, individuals on task teams
- try open houses with show and tell by both policy and research folks semi-annually tied to social event
- try joint presentations/seminars at alternating locations

Process

- build integration into PDPs to ensure implementation

- develop formal process – when new issue identified get team (policy, research, communications) together at outset to work though the problem, identify needs, develop an action plan for both science and policy, identifying what, who, and by when (responsibility, accountability, and timeframes), including transfer and implementation activities – should be led by a benevolent dictator to ensure results

- following this session use ideas and recommendations to develop clear action plan with recommendations/timing/responsibilities attached and make sure it's implemented – not shelved – need to keep this going rather than all going back to status quo thinking that this is someone else's responsibility

Appendix III. Summary of *Science Matters* Session Evaluations

Main Conclusions:

- 30 of the 80 attendees completed the evaluation form.
- 26 reported that they thought the event was worthwhile, two thought it was marginally worthwhile, 1 said it was not worthwhile (1 did not answer the question).
- Both science and policy presentations were very well received.
- Respondents generally expressed strong support for followup action to ensure integration of policy and science processes; formation of task teams and insertion of integration responsibilities into PDPs were mentioned often.
- All respondents voiced support for future meetings. Most prefer it to be as follows:
  - Scheduled once per year in November in Sault Ste. Marie (since nearly all respondents are from the Sault the latter finding is not surprising, but if SIB, WRDS, and ARDS staff are included in future events rotating may be a better choice)
  - Also include SIB staff (about half advocated including fish and wildlife research as well)
  - Have both science and policy presentations
  - Include a facilitated session
  - Do not charge a registration fee unless forest industry or other non-MNR agencies are involved (however, only a few want industry involved); fund the event as core business
- Respondents offered a range of ideas for topics for presentations at future meetings, but most of them related in some way to examples where science and policy are being integrated.
- Respondents provided a range of suggestions for improving on the recent event, including ensuring we're not preaching to the converted, organizing smaller breakout groups and improving room acoustics, "planting" audience questions to ensure more discussion after presentations, ensuring scientists get more opportunities to talk about their work, focussing the meeting more tightly so that a more concrete result is produced, and producing progress reports to let people know how integration is progressing from one meeting to the next.

Responses:

Note: Not all respondents provided answers to every question; some provided more than one answer to a question.

1. Was this useful?

Yes: 28
Comments:
Marginally useful (x2)

No: 1

a. If yes, name one thing you learned today that will be useful to you in your job.

- Bill Thornton's list of business drivers for policy/science interface. (x3)
- The term *regulatory negligence* presented by Bill Thornton – legal obligations.
- There is an urgent need to have a continuous connection between science and policy. (x3)
- Names and faces of individuals in both science and policy you hear about but never have opportunity to network with.
- Who people are, began the long road to consistent communication between science and policy.
- Policy folks want to keep in-house research function, but ensure shorter-term outputs are transferred to policy, with followup consultation.
- Challenges that face research and policy are brought to light from multiple perspectives. I realize these challenges all the sooner making me better able to react to them.
- Policy issues mentioned during presentations that require research will help me in deciding new research projects.
- There is a willingness among science folks and policy folks to integrate their efforts.
- It forces me to think about my current relationship with MNR's science community.
- The diversity of research conducted by the MNR across Ontario is amazing. There needs to be better mechanisms (such as this forum) to communicate research/policy issues – including forestry, fire, parks, species at risk.
- Research projects that are ongoing at OFRI and CNFER; who's who in research.
- Who does what. 2. Scientists love their jobs. 3. Scientists are good presenters.
- (Re)familiarization with science/research folks and how things are being/getting done these days.
- I learned some more about MNR science projects that I never knew about before.
- Networking -> improved linkages with others' research, etc.
- Better/more linkages/integration among landscape level policies – forest management (e.g., old growth) and wildlife (e.g., caribou, moose) etc. – similarly at stand levels – need this before landscape guide is written.
- Science behind proposed new guides (e.g., fish and moose).
- Role of small streams -> hydrology & fish presence -> input to possible C&I.
- Rob Mackereth presentation; summary of scientists and work in progress.
- Idea to connect with Lisa Buse re: science presentations to MNR foresters.
- I learned about changes in managerial positions at Bondar Place.
- A point I made in the working groups was also something important to other members of the group.

b. If no, why not?

- No – the science presentations were interesting but a better forum might be more regular lunch time presentations.
- Too broad based on policy. Also, appears to be a disconnect between policy and research communities on a definition of "science." This needs to be cleared up.

2. What specific presentations were of interest to you?

All presentations: 6
Mackereth: 9
Thornton: 8
Rodgers: 7
Hillier: 6
Bell: 5
Churcher, Harris, Perera: 4
Rempel: 2
Cole: 1

General comments:

- All were [of some interest], some were excellent; need to feedback on how to do a powerpoint presentation to some – too many words.
- None specifically but provided very useful information.
- Anne's presentation – more time needed to see an example of how science research/policy and external factors all contributed to evolution of a public policy.
- Progress being made on indicators for effectiveness monitoring @ 9:30, 10:30, 11:30, 1:00 pm.
- CNFER and OFRI science presentations.
- I was very pleased to see such a wide variety of projects.

3. What followup should occur to put suggested solutions into action?

- Directors of S&I, FMB, IRB, ARDB meet and institute solutions.
- Need director buy-in, then assign leaders to start suggested solutions.
- Actions need to be part of managers' PDP (performance contract).
- Director-level endorsement of action plan, roles attached to PDPs.
- Continued support from managers to continue the dialogue and the promotion of integration.
- Leadership showing support for research across the forestry program. 2. Formalize the role that research has in the forestry program and have meaningful opportunity to priorize research efforts supporting forest policy. 3. Provide dialogue opportunities (such as this one) once every year or so.
- Someone needs to identify/assess the top three ideas and assign them to an individual (not a team) for implementation. The individual may wish to draw upon the expertise of others, but (s)he has final responsibility.
- S.I.T. -> needs to improve communication to organization; formation of a group to achieve some of the success lists should be a priority.
- Synthesis of "real" achievable solutions in short term which can be implemented and an action team to work with sr. mgr. to champion and implement other longer term opportunities.
- Digest results of facilitated sessions; divide into policy and science tasks; assign to staff and include in their PDP targets; report results to directors.

- Certain people from Science and Forests Division should be tagged to summarize suggestions and present to JBLT.
- Provide participants with presentations and working group summaries; create smaller task groups to synthesize group summaries & develop an action plan (circulate) & deliver to sr. management.
- Improved, ongoing dialogue/interactions. Forced or planned. Established cross-section teams.
- Formulation of science-policy focus groups to continue the dialogue on individual basis – directly.
- Create a working committee involving both scientists and policy people.
- Reactivate policy/science working groups established to manage ProGrid – bring needs to joint branch leadership team and similar science division management teams (OFRI/CNFER) – make findings/work part of regular business – visibility communications and networking.
- Accountability/PDP – it's how things get done.
- Planning for more communication between science and policy; future forums, perhaps seminar series, and other such events.
- Next year at the annual science/planning meeting a list of how the solutions provided here were addressed should be presented.
- Shorter, more frequent information-sharing sessions, such as this.
- Develop other mechanisms to facilitate communication of research result/policy development and future needs, i.e., think tanks, forums, even something like the MNR Compass, specific to research policy.
- Obtain access to the presentations; summary, we need access to info at a regular station or place, to update, discuss, plan, etc.
- Common definition of science. Focus of discussions on emulation guidelines to be more inclusive of environmental besides wildlife.

4. Should this type of event happen regularly?

Yes: 19 *[several people did not provide answer to this question but it most cases due to their responses to other questions it was clear they felt the event should happen regularly]*

Comments:

- Useful dialogue for all present. Stimulates communications between branches that is useful and hopefully fruitful.
- This event identified problems and solutions. In the future they should focus on solutions.
- An informal meet and greet – so people can meet others and find out what they are doing within MNR – would also be useful (a staff day) – but not like the one we just had.
- Yes, in some form or other. The purpose may change from year to year, but the participants need to get together.

No: 0

If such an event occurred regularly:

a. How often should it occur?

Once a year? 17
Twice a year? 7
Once every 2 years? 3
Comments:

- [Once every 2 years is] Probably too long.

Other:

- At least twice/year, but smaller targeted sessions could occur monthly.
- As often as necessary, maybe more at the beginning and taper off to 1/yr.
- As needed, when issues/new information arises.

Include facilitated session

Yes: 17
Comments:

- Absolutely.
- Exact format would change, probably more information exchange and update.
- Depends on topic.
- Optional.
- Larger-scale, less frequent sessions should be facilitated.
- [Having a facilitated session] depends on the purpose of the workshop.

No: 4
Comments:

- Only 1x a year for facilitated sessions [this respondent answered 2x per year for frequency of event]

b. What format would you prefer?

Science presentations only: 0
Policy presentations only: 0
Combination of both: 27
Comments:

- Science ones are most interesting (most of us, even the policy gang, have a science background) -> keep engaged.
- Heavy to science.
- Wildlife policy, wildlife research, etc. – not just forestry
- Bring in other branches.
- Need to see the synergies.

Other:

- Annual Science Days at the main office (SSM) level plus smaller scale version at the regional level (e.g., NWR Science Day)
- I'd increase emphasis on policy, too much science.
- Depends on purpose of workshop.
- Facilitated sessions.

- Programs as well, e.g., audit results, state of the forest, wood supply.
- Implementation issues.
- Highlight a certain subject area (possibly).
- Also more informal sessions too – OFRI seminars, GLFC presentations.

c. What topics would you like to see covered?

- Emerging policy issues and contribution of science to developed/developing policy. (x3)
- Not just integrating research/policy but policy/field implementation; look at the whole picture; what has been accomplished to date; progress. (x2)
- Research priorities, policy priorities, current research, forecasted research. (x2)
- Environmental scan of research and policy issues requiring attention; see if the two agree; mechanism to meld the two.
- Current policy/science projects, e.g., development of landscape guide, e.g., old growth policy.
- Info exchange – progress updates, new direction.
- Update research priorities and identify which research/development groups in the province should address which priorities.
- Should cover all aspects of research with MNR.
- Other research; what's on the horizon.
- Growth and yield. (x2)
- Cultural heritage, social surveys (e.g., public opinions, public use of resources, etc.), economic research, wildlife, water quality, forest productivity, silviculture, old growth, non-timber values, inventory information, predictive models, habitat-population-other influences continuum.
- Emerging issues in natural resources mgmt; fire mgmt and forest policy; protected areas mgmt.
- Fire, silviculture, insects, disease.
- Expand beyond policy: MNR business.

d. What is the best time of year?

Spring: 1 *Comments:* Before May 1st
Summer: 0 *Comments:* Not the golf season!
Fall: 16 *Comments:* Late (x2)
Winter: 14

Preferred month: *Comments:* Doesn't matter too much, as long as there's enough advance notice.

January: 3
February: 1
March: 1
September: 1
October: 2
November: 14 *Comments:* Late.
December: 4 *Comments:* Early.

Comments:
See note under #3 – should occur before the policy/science working group meetings plus present progress over time at subsequent sessions to demonstrate better working relationships and integration of policy/science over time.

e. Preferred location *[note: nearly all event participants were from SSM]*:

Comments:
Difficult due to geographic extent but perhaps technology could help this – videoconferencing etc.

Sault Ste. Marie: 20
Comments:
- [Have in SSM] unless we are fully supported in attending [in other locations].
- Every other year, one of the regions.

Rotate among regions: 9
Comments:
{Rotate among regions] and SSMarie

Other: 4
- SSM and regional areas
- Annual Science Days at the main office (SSM) level plus smaller scale version at the regional level (eg, NWR Science Day)
- Two each year: 1 in SSM, 1 in a region.
- Doesn't matter.

f. What is the appropriate audience?

Forest policy and research only: 7
Comments: [Involving these only 2 will ensure] efficiency and clear agenda.

Expand to include:
Science and Information: 20
Fish and wildlife research: 15
Industry and other clients: 7½ (the ½ = a "perhaps")
Comments:
Test as slightly expanded audience (relative to this one) and see where it goes. Let it evolve over time.

Other:
- Other jurisdictions and levels of government – annual MNR sessions + symposiums with others every 3-5 years.
- Keep internal.

- Depends on the objective – have a focus.
- Regional forest science.
- All MNR programs – CFS/academia – this is the only way to improve communication.
- Operations, eg, districts and regions. Feds.
- Any affected parties that show interest.

g. Should it be self sustaining, i.e., charge registration fee?

Yes: 6
No: 21

Comments:

- Dependent on the type of audience (no if MNR exclusive, yes if outside interests) (x3)
- Part of budget for each division/branch.
- Whichever ensures the most participation.
- Corporate duty.
- If informal, then no fee is needed, for large forums – then certainly charge a fee.
- It depends on what it being offered, 1 day vs. 3 days, etc.
- Don't care.

If yes, what is an appropriate amount?

- $100.
- Cost recovery (if industry attends).
- $50 – if proceedings are documented and provided.

If no, how should it be funded?

- If this work is core to MNR business take $ from manager budgets (x3)
- Workplan – FMB, ARDB budgets shared (x5)
- Division funding -> commitment to learning (x2)
- Part of the commitment of MNR should be to bring the sections together; therefore, these meetings should have their own budget.
- Through branch "good will" – invest in your staff's time – open without limitation.
- FMB.
- Charging a fee will limit attendance.
- Taxpayers' money.

5. Other comments to help us improve effectiveness of future events:

- The facilitated session was very useful IF there is action as a result. In my experience, there are too many instances of these science/policy/planning meetings where nothing happens as a result of the meeting.
- It was a stimulating and worthwhile event. Outside of the agenda, the opportunity to meet and "put a face to a name" was beneficial. My thanks to the organizers and sponsors.

- I think it went well, it is a start to a long road of intertwining two very important issues within MNR.
- Have a more finite and clear product that you want to generate through the meeting. The statement to complete was too big picture and not concrete enough.
- It is obvious that research scientists love to talk about their work. They are good at it. Create more audiences for them, e.g., guest lectures and Forest Management Branch. Conversely, create more fora for policy implementation people to speak at OFRI, etc.
- Plant some questions to generate more discussion after presentations.
- Suggested 20 minute presentation maximum with 10 minute allowance for questions.
- Smaller break out groups – better acoustics (smaller rooms); science presentations less important than facilitated discussions for setting actions on science-policy integration.
- Progress "reports," i.e., what is the result of our facilitated sessions. Tell us at the next session. Continue from one session to the next so that proposals/suggestions can be monitored.
- Evaluate attendance to ensure we're not preaching to the converted (i.e., the only participants are the people who are already involved in policy/science (not just research) integration projects).
- Perhaps a 1½ day session on a given subject, e.g., landscape guide; ½ day – backgrounder + issue/needs identification; ½ day – concurrent brainstorming workshop sessions on issues/needs; ½ day – reconvene to larger group to help project team.
- Expand focus to include fire, parks – or have targeted sessions, or key representation (i.e., planners/policy specialists/researchers).
- Contact me and I'll help. [No name provided.]
- Thanks to the organizers. This was a useful event.
- Well done! Looking forward to the next one!